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ASSESSMENT OF THE SUITABILITY OF A "GREASOMATIC 96" AUTOMATIC LUBRICATING DEVICE MANUFACTURED BY WYMARK LTD. FOR USE UNDERGROUND IN U.K. COAL MINES

1. Introduction

This assessment covers the acceptability of a "Greasomatic 96" automatic lubricating device manufactured by Wymark Ltd. for use underground to criteria used in the former British Coal Acceptance Scheme for the use of Non-Metallic Materials and Substances. It does not cover the suitability of the device from an operational point of view. It is based entirely on information supplied by Wymark Ltd.

2. Nature of Device and Operation

The device is an automatic single point lubricating device which is intended to be screwed into the lubrication point of machinery to dispense lubricant at a pre-determined rate. In operation an electrolyte acts upon an adjustable galvanic element to produce Hydrogen gas at the pre-determined rate. The Hydrogen gas in turn acts upon a rubber piston to dispense the lubricant. All the components are hermetically sealed inside a plastic container.

3. Assessment

3.1 The Product

The Non-Metallic Materials and Substances Scheme considered the net impact on safety of the introduction of products, taking into account fire resistance, explosibility, risks from static electricity, properties of any packaging used and medical and environmental considerations.

The device when empty weighs approximately 170g and when full of lubricant less than 300g. It therefore meets the "small volume" requirement of the Scheme of less than 500g at any one location. In addition, its size is such as not to increase significantly the electrostatic hazard.

One area of concern could be the production of Hydrogen gas, which is a very light and highly flammable product. It is stated by Wymark that the maximum amount of Hydrogen produced is 0.02g which in normal operation would be sealed within the unit. This mass of 0.02g equates to approximately 0.25litres which is commensurate with the size of the device. (Density of Hydrogen = 0.09g/l). If the device were

damaged and the Hydrogen released the small amount would quickly become dispersed.

No assessment has been made of the lubricant since this will vary with application and should be subject to individual assessment.

3.2 The Packaging

It is stated by Wymark that the product is normally supplied in cardboard boxes of 20. Individual items would then be issued as required. Packaging underground therefore is not an issue in this case.

4. Conclusions

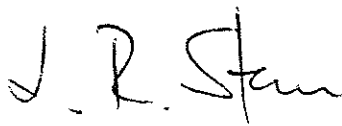
4.1 The "Greasomatic 96" has been assessed for its suitability for use underground to criteria used in the former British Coal Acceptance Scheme for the Use of Non-Metallic Materials and Substances.

4.2 The "Greasomatic 96" has a mass when full of less than 300g and would have met the requirements of the Scheme for "small volume" items.

4.3 Individual COSHH assessments of the lubricants will be required if not already carried out.

4.4 If taken underground individually or in small numbers there are no packaging issues in this case.

4.5 Under the criteria of the former British Coal Acceptance Scheme for the Use of Non-Metallic Materials and Substances the "Greasomatic 96" is acceptable for use underground as an automatic single point lubrication device.



L R Stace

for and on behalf of CERBERUS (Mining Acceptance Services) Ltd.

5 August 1997